

Child Development and the Acquisition of Literacy Skills



Adapted from a Grand Rounds Presentation at PCMC

Salt Lake City, Utah 3.29.2007

Perri Klass, MD

Motivation



“Perhaps the best way of inspiring a young child with a desire of learning to read is to read to him.”

Horace Mann, 1898

A number of studies from the National Academy of Education, the National Assessment of Educational Progress reports, National Research Council, and the National Research Center contributed to the information in this outline.

- Research shows 35 % of American children enter Kindergarten unprepared to learn, most lacking the language skills that are the prerequisites of literacy acquisition (1985).
- 37% of 4th graders perform below basic reading levels on national standardized tests for reading (2000).
- 31% of 4th graders perform at or above proficient reading levels on national standardized tests for reading (2003)

These data contribute to the following outcomes:

- One third of first graders placed in remedial reading programs
- Most are not dyslexic
- Many will remain in ‘slow’ reading groups throughout school
- After 4th grade, all school success is contingent on reading success
 - consequences of school failure
 - Poor self-esteem, boredom, frustration

- Increased risk of absenteeism, school avoidance, truancy, dropping out
- Increased risk of early pregnancy - substance abuse - legal trouble



Past Concepts of reading readiness development included the following:

- Neural ripening (1920's) - Brain not ready until 6 yrs 6 months
- Reading readiness (1960's) – Mastery of an ordered set of skills
- Emergent literacy (1980's) – Literacy development begins at birth
 - Critical cognitive work in first 5 years
 - Early literacy development in real life settings
 - Early exposure critical

The parent's use of Language and its impact of Children's Language



- Children's language evolves primarily through parent-child interactions
- Repeated interactions stimulate early brain development and growth

- By two years of age, children's language correlates with later cognitive performance

Reading and Children's Brain Development

- The architecture of the brain is shaped by early experiences
- Underused nerve connections are "pruned"
- Repetitive use of cognitive skills associated with reading aloud—language, memory, comprehension--ensure that associated brain connections persist

Reading Aloud and Children's Literacy Development (1999)

- Literacy development begins prior to reading
- Early language and literacy experiences form the foundation for later reading and language competencies

Benefits of Reading Aloud

- Stimulates imagination
- Fosters language development
- Promotes reading skills
- Prepares children for school success
- Encourages decontextualized language
- Motivates children to love books



The Importance of Emerging Literacy

Children at risk for reading difficulties are those who start school with:

- lower verbal skills
- less phonological awareness
- less letter knowledge
- less familiarity with the processes of reading

Reading Aloud and School Readiness



(National Center for Educational Statistics, 1999) compared reading aloud to children less than 3 times to those being read to 3 times or more times per week in Percent of children mastering:

	Less than 3 times	3 times or more
Recognize all letters	14 %	28%
Count to 20	44%	60%
Write name	40%	53%
Pretend to read/recite a story	58%	75%
Have master 3-4 skills	25%	43%

Low-income status significantly predicts children's exposure to language (Bloom, 1998). Children from low-income families are far less likely to be read to on a daily basis (40%) than children read to daily (60%).

Poor Literacy Skills in Adults

- Up to 25% of adults in US functionally illiterate
- Functional illiteracy refers to the ability to use language in everyday life (at or below 5th grade)
- Another 25% are marginal (8th grade or below)
- These adults at risk for:
- Poor economic potential

- Poor health literacy and problems accessing care
- Poor ability to help children advance in school

The Importance of a Clinic-Based Intervention

Medical Providers:

- Reach most parents and children
- Have repeated one-on-one contact with families
- Provide trusted guidance about children's development
- May serve as the only source of formalized support for poor families



Reach Out and Read contains three components.

1. Volunteers in waiting rooms read aloud to children as they wait for their appointments
 - Medical providers encourage parents to read aloud and offer anticipatory guidance
 - At every health supervision visit, a child aged 6 mos.-5 years receives a new developmentally-appropriate book

The Model demonstrates reading aloud techniques through use of volunteers. Underscores that reading is entertaining for children and it can make the waiting room experience more pleasant.

2. Anticipatory Guidance
 - Stresses that reading aloud promotes the child's love of books by linking books with the parent's voice and attention
 - Encourage parent and child to read together for pleasure
 - Underscores the idea that reading aloud is important even before a child can talk

- Encourage parent to read aloud and talk about the book:
Ask questions (“Where is the baby?” “What does a dog say?”)
Point and name or describe objects
Relate the book to child’s experiences (“He has a sister, just like you.”)

More Anticipatory Guidance

- Articulate age-appropriate expectations:
- 6-month-old babies put books in their mouths
- 12-month-olds can point with one finger
- 18-month-olds can turn board book pages
- 2-year-olds may not sit still to listen to a book
- 3-year-olds can retell familiar stories



3. Books Given in Exam Room or by Early Intervention or parents

In the *Reach Out and Read* program with pediatricians their goals include

- At each health supervision visit, a child age 6 mos. -5 years receives a new developmentally-appropriate book
- Before kindergarten, a child receives 10 books
- Books are introduced early in the visit and integrated into the examination within the context of other anticipatory guidance
- Introduce the Book Early in the Exam

What to say and observe developmentally:

- (Child's name) is chewing on the book. Young kids like to do that.
- Even babies really like to look at pictures.
- Would you (the child) like to look at this book with me?
- Fine motor development (maturity of grasp, hand skills)
- Social/emotional interaction with others (shared attention, affect)
- Cognitive skills (attention, memory)
- Expressive and receptive language (vocabulary, comprehension of words)
- Vehicle to offer parents concrete advice about child development

Book-Handling Skills

- Helps turn pages (7-8 months)
- Turns pages well (11-15 months)
- Hands book to adult (11-15 months)
- Book right-side up (11-15 months)
- Understands upside down picture (24 months)

Picture Reading Skills

- Points to pictures (8-12 months)
- Points when asked "Where?" (8-12 months)
- Names objects (10-14 months)
- Points and asks "What's that?" (13-20 months)

Story Reading Skills

- Book babble—sounds like reading (13-14 months)
- Fills in word in text (15-28 months)
- "Reads" to dolls or stuffed animals (17-25 months)
- Protests when adult gets word wrong (25-27 months)
- Reads familiar books to self (30-36 months)

Parent – Child Interactive Tasks



6-12 Months

Parent

Lets child explore book

Holds child in lap

Responds and interprets
child's initiations

Labels, uses gestures, talks
during routines

Child

Reaches for book
Puts book in mouth
Turns pages w/ help

Sits in lap

Communicates through
gestures and early utterances

Begins to understand a few
words



12-18 Months

Parent

Child

Lets child control book

Holds book

Turns board pages

Turns book right side up

Follows child's interest

Has short attention span

Asks "where is---?"

Points when asked "where is--?"

Responds to child's initiations

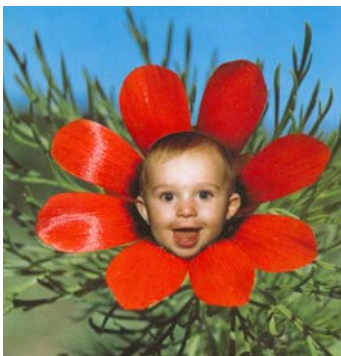
Points and responds to pictures

Labels/describes

Sings songs/rhymes

Reads as part of routine

Imitates parent's vocals



18-24 Months

Parent

Child

Lets child control book

Turns pages

Carries book around

Repeats same stories
Engages in verbal turn taking

Labels /describes
Repeats and expands child's utterances

Points and asks "What's that?"
Relates books to child's own experiences

Fills in words of stories
Recites parts of stories
Recites parts of stories
Reads to dolls and others

Begins vocabulary spurt

Begins to combine words
"telegraphic" speech



24-36 Months

Parent

Child

Lets child control book

Points out letters and reads as part of routine like street signs

Reads to assist with daily routines

Labels/describes - Asks child to Name objects

Relates books to child's own Experiences

Turns paper pages
Protests when pages are skipped or story is wrong

Coordinates text and pictures

Recites familiar parts of stories

Begins to use "No"
May know around 320 words

Requests same book repeatedly



3 Years and Older Parent

Child

Asks “What happened?”

Has longer attention span

Lets child tell story

Understands more complex stories

Encourages writing

Anticipates outcomes

Points out letters and sounds

Attempts writing

Begins recognizing letters

Writes, displays and points out child’s name

Asks questions about text (“why” questions)

Responds/expands on child’s questions/stories

Attempts to use sentences and grammar

Summary of Research

Reach out and Read significantly and positively influences the literacy environment of children

- Parents read more to their children
- Parents and children have more positive attitudes toward reading aloud
- Children participating in ROR tend to have increased language development in comparison to non-participating children

Who Benefits from Reach out and Read

- Medical providers use books as valuable assessment tools and build bonds with families
- Parents are given essential information about reading aloud and suggestions for parent-child interactions
- Children get all the early literacy benefits of reading aloud and have 10 books of their own by age 5

